



## SUMMER PROGRAM 2016

The Teacher Research Academy (TRA) offers middle school, high school, and community college faculty unique professional development experiences at Lawrence Livermore National Laboratory (LLNL).

### TEACHER OUTCOMES:

- Gain increased understanding of science, technology, engineering, and math aligned with NGSS requirements
- Understand science in a real world context
- Improve ability to guide student research

### ACTIVITIES:

- Meet LLNL scientists
- Visit research laboratories
- Learn how to apply Common Core technical communication skills
- Use cutting edge science equipment, processes, and practices found in research laboratories

### INTERSHIPS:

- Paid internships
- 8 week program, June–August
- Placement in any workshop area

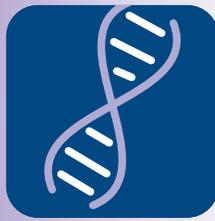
**Graduate course credit** available—CSU East Bay  
**Continuing education credit** available— CSU Chico

You must be a U.S. citizen to attend  
\$20 fee/workshop

**TIME:** 8:30 am – 3:30 pm daily

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Manager, Science Education Program  
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## PROFESSIONAL DEVELOPMENT WORKSHOPS



### BIOTECHNOLOGY

Emphasizes overview of the field with instruction on basic skills to include DNA and protein analysis through inquiry and experimentation.

**Level I** June 20 – 22  
**Level II** June 27 – July 1  
**Level III** July 25 – 29



### COMPUTATIONAL MODELING

Introduces concepts of computer modeling and simulation using programming with NetLogo to apply towards STEM curriculum using real-world applications.

**Level I** June 20 – 24  
**Level II** June 27 – July 1  
**Level III** July 25 – 29



### 3D PRINT & DESIGN

Incorporates modeling, design, and three-dimensional printing for introduction to curriculum, print everyday objects from computational models using Tinkercad.

**Level I** July 6 – 8  
**Level II** July 11 – 15  
**Level III** July 25 – 29



### FUSION/ASTROPHYSICS

Focuses on properties of electromagnetic radiation, spectroscopy, gravitation, and nuclear physics using tools employed in research laboratories through hands-on activities.

**Level I** July 6 – 8  
**Level II** July 11 – 15  
**Level III** July 25 – 29



### TECHNICAL WRITING

Prepares teachers to build students' technical-writing skills toward CCSS goals to improve lab instruction, technical literacy, lab notebooks, abstracts, and science posters.

**June 23 – 24**  
**July 18 – 19**



### TEACHER RESEARCH INTERSHIPS

Mentored research opportunities within LLNL research laboratories. Interns receive a \$4000 stipend at completion of the 8-week internship. Applications are competitive.

**June 13 – Aug 5**



**REGISTER ONLINE:** [EDUCATION.LLNL.GOV](http://EDUCATION.LLNL.GOV)  
**REGISTRATION IS OPEN!**